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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/608,591

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James M. Sweet

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EXAMINER

HILLERY, NATHAN

ART UNIT

PAPER NUMBER

2176

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/608,591	Applicant(s) SWEET ET AL.	
	Examiner Nathan Hillery	Art Unit 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: RCE filed on 11/16/07.
2. Claims 1 – 15 are pending in the case. Claims 1, 6 and 11 are independent.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/16/07 has been entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, 6, 7, 9, 11, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bharat et al. (US 6112203 A) and Earl (US 5924104 A).
6. **Regarding independent claim 11**, Bharat et al. teach that we locate pages that point to at least one of the pages in the start set 201. We call this set of pages the back set 202 (Column 4, line 61 – Column 5, line 20), which meets the limitation of **performing a page-level link analysis that identifies those hyperlinks on a page linking to a candidate document page.**

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Bharat et al. teach that the pages pointed to by the start set 201 are located. This can be done by fetching each start set page and extracting the hyperlinks in each of the pages (Column 4, line 61 – Column 5, line 20), which meets the limitation of **searching page data to create a list of links in the document.**

Bharat et al. teach that the pages pointed to by the hyperlinks constitute the forward set 203. Nodes for the forward set of pages are also added to the n-graph 211. Thus, the input set of pages 204 includes the back, start, and forward sets 201-203 (Column 4, line 61 – Column 5, line 20), which meets the limitation of **analyzing each link in conjunction with each other link in the list of links to identify link pairings.**

Bharat et al. teach that the input set of pages 204 includes the back, start, and forward sets 201-203. The input set 204 includes pages which do not directly satisfy the query, i.e., pages that do not include key words exactly as specified in the query. However, these pages may be useful because they are linked to pages of the start set (Column 4, line 61 – Column 5, line 20), which meets the limitation of **assembling link pairings in order to form clusters of links.**

Bharat et al. teach that if a link points to a page that is represented by a node in the graph, and both pages are on different servers, then a corresponding edge 213 is added to the graph 211. Nodes representing pages on the same server are not linked (Column 4, line 61 – Column 5, line 20), which meets the limitation of **examining the links in the cluster of links for locality.** It should be noted that pages on the same server are nodes and are thus still apart of the resulting graph.

Bharat et al. teach that a larger n-graph 211 can be constructed by repeating this process for the back and forward sets 202-203 to add more indirectly linked pages (Column 4, line 61 – Column 5, line 20), which meets the limitation of **performing a recursive application of the page-level link analysis to the linked candidate document page and any further nested candidate document pages thereby identified, until a collective set of identified candidate document pages is assembled.**

Bharat et al. do not explicitly teach **performing a document-level analysis that examines the collective set of identified candidate document pages for grouping into one or more documents; examining the collective set of identified candidate document pages to weed out links from the collective table of content set which have properties that are not characteristic of intra-document links, to provide a resultant set of identified candidate document pages; grouping the content found in the resultant set of candidate document pages by an automated system into a document representation stored in memory by an automated system and; and printing or viewing on a display by a user, the document representation.**

Earl teaches that the link display manager 300 includes a document parser 304 for parsing each document and identifying links 202 and 204 (Column 2, line 59 – Column 3, line 9), which meets the limitation of **performing a document-level analysis that examines the collective set of identified candidate document pages for grouping into one or more documents.**

Earl teaches that the link display manager 300 includes a display system for defining predetermined screen element properties providing visual cues for distinguishing the identified links 202 and 204. When a user provides an input link selection to select a new document, the document parser 304 parses the selected new document to identify intradocument links 202 and interdocument links 204 (Column 2, line 59 – Column 3, line 9), which meets the limitation of **examining the collective set of identified candidate document pages to weed out links from the collective table of content set which have properties that are not characteristic of intra-document links, to provide a resultant set of identified candidate document pages.**

Earl teaches that the display system 306 processes the identified intradocument links 202 and interdocument links 204 for displaying distinctively the intradocument links 202 and interdocument links 204 with predetermined visual cues to differentiate the links 202, 204 (Column 2, line 59 – Column 3, line 9), which meets the limitation of **grouping the content found in the resultant set of candidate document pages by an automated system into a document representation stored in memory by an automated system and; and printing or viewing on a display by a user, the document representation.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Bharat et al. with that of Earl because such a combination would provide the users of Bharat et al. with *an improved method and apparatus for displaying links on a user display interface in a computer system* (Column 1, lines 39 – 41).

7. **Regarding dependent claims 12 and 14**, Bharat et al. teach that a similarity weight is assigned to each node of the sub-graph. Various document similarity-measuring techniques have been developed in Information Retrieval to determine the goodness of fit between a "target" document and a collection of documents. These techniques typically measure a similarity score (Column 6, lines 51 – 57), compare with **the step for analyzing each link further comprises determining a score for each link pairing, and the scoring is determined by a similarity criteria.**

8. **Regarding claims 1, 2, and 4**, the claims incorporate substantially similar subject matter as claims 11, 12 and 14 and are rejected along the same rationale.

9. **Regarding claims 6, 7, and 9**, the claims incorporate substantially similar subject matter as claims 11, 12, and 14 and are rejected along the same rationale.

10. Claims 3, 5, 8, 10, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bharat et al. (US 6112203 A) and Earl (US 5924104 A) as applied to claims above, and in further view of Min et al. (US 6633868 B1).

11. **Regarding dependent claims 13 and 15**, neither Bharat et al. nor Earl explicitly teach **the scoring is determined by a proximity criteria, and the scoring is determined by a regularity criteria.**

Min et al. teach that for each document a matrix is calculated. That is, the elements of the square matrix are determined by the proximity and frequency of word pairs. Normalization factors may also be applied to adjust for parameters such as document length, word pair frequency, etc. The matrix product computes a weight that correlates with the number and proximity of relevant word pairs found in each document (Column 7, lines 38 – 55), which meets the limitation of **the scoring is determined by a proximity criteria, and the scoring is determined by a regularity criteria.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the combined invention of Bharat et al. and Earl with that of Min et al. because such a combination would allow the users of Min et al. the benefit of a *computer-implemented method for improving query-based document retrieval using the vast amount of contextual information (i.e., information about the relationships between words) within the document collection to be searched* (Column 2, lines 61 – 65).

12. **Regarding claims 3, 5, 8, and 10**, the claims incorporate substantially similar subject matter as claims 13 and 15 and are rejected along the same rationale.

Response to Arguments

13. Applicant's arguments filed 11/16/07 have been fully considered but they are not persuasive.

14. Applicant argues that Earl does not teach **examining the collective set of identified candidate document pages to weed out links which have properties that are not characteristic of intra-document links, to provide a resultant set of**

identified candidate document pages because what Earl defines as intra-document is what Applicant would call intra-page and thus what Earl calls inter-document is really inter-page (pp 11 and 12).

The Office disagrees.

In light of all the evidence, the claim recites **links, which have properties that are not characteristic of intra-document links**. Consequently, the Office maintains that Earl clearly and explicitly teaches intra-document and inter-document links that meet the claimed intra-document link, since both or at least one of the links, intra-document and inter-document, have properties that are characteristic of intra-document links within the broadest, reasonable interpretation in light of the Specification.

15. Applicant argues that Earl further does not teach **examining the collective set of identified candidate document pages to weed out links which have properties that are not characteristic of intra-document links, to provide a resultant set of identified candidate document pages** because Earl keeps all the links while applicant's invention discards or "weeds" out the undesirable links (p 12).

The Office disagrees.

First, Applicant is correct that Encarta defines "weed out" as "to separate out something undesirable. However, the Office maintains that Earl does "weed out" the links within the broadest, reasonable interpretation in light of the specification. Thus, Earl, by applicant's own admission, teaches discriminating visually between intra-document and inter-document links, which meet the definition of separating out, or

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weeding out, the links visually on screen. The requirement to have to discard the links is still too limiting in view of what is actually claimed and in light of all the evidence.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Hillery whose telephone number is (571) 272-4091. The examiner can normally be reached on M - F, 10:30 a.m. - 7:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on (571) 272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'NH' followed by a stylized, cursive flourish.

NH

Nathan Hillery
Examiner
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